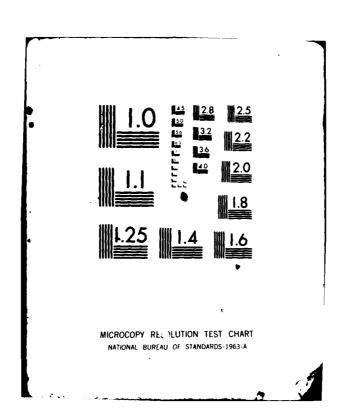
AD-A115 016
ARMY ELECTRONICS COMMAND WHITE SANDS MISSILE RANGE N--ETC F/6 4/2
103150 MLRS MISSILE NUMBERS V15-006, V28-009 ROUND NUMBERS V248--ETC(U)
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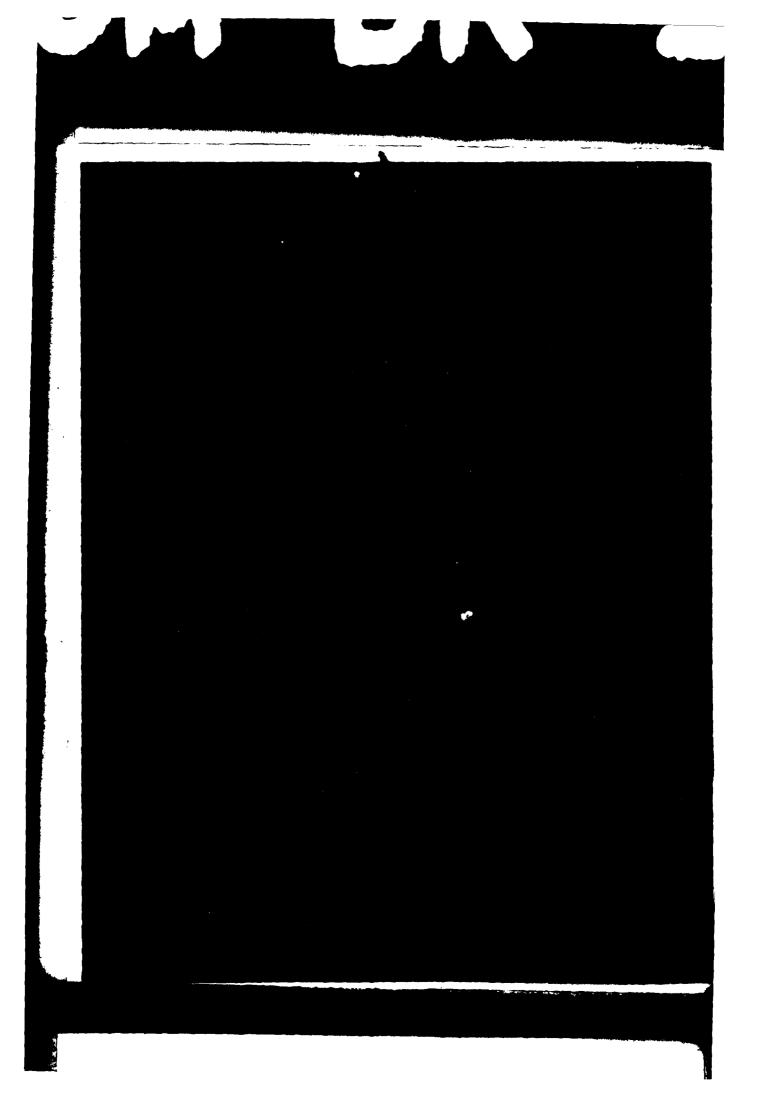
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4. TITLE (and Subtitio) 19315B MLRS, Missile Numbers V15-006, V28-009, Round Numbers V248/AT2-17, V249/AT2-18	5. TYPE OF REPORT & PERIOD COVERED
	6. PERFORMING ORG. REPORT NUMBER
7. AUTHOR(s)	8. CONTRACT OR GRANT NUMBER(*)
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9. PERFORMING ORGANIZATION NAME AND ADDRESS	10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS
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11. CONTROLLING OFFICE NAME AND ADDRESS	12. REPORT DATE
US Army Electronics Research & Development Cmd	Apr 82
Atmospheric Sciences Laboratory	13. NUMBER OF PAGES
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18. SUPPLEMENTARY NOTES	
19. KEY WORDS (Continue on reverse side if necessary and identify by block number,)
PMeteorological data gathered for the launching of the V15-006, V28-009, Round No. V248/AT2-17, V249/AT2-1	the 19315B MLRS, Missile No. 18gpresented in tabular form.
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CONTENTS

		PAGE
INTRODUC	TION	1
DISCUSSI	ON	1
GENERAL	AREA MAP	2
LAUNCH A	REA DIAGRAM	3
TABLES		
1.	Surface Observation Taken at 1003 and 1010 MST at LC-33	4
2.	Anemometer-Measured Wind Speed and Direction, LC-33 Fixed Pole, Taken at 1003 MST	5
3.	Anemometer-Measured Wind Speed and Direction, Tower Levels 1, 2, 3, and 4, taken at 1003 MST	5
4.	Anemometer-Measured Wind Speed and Direction, LC-33 Fixed Pole, Taken at 1010 MST	6
5.	Anemometer-Measured Wind Speed and Direction, Tower Levels 1, 2, 3, and 4 Taken at 1010 MST	6
6.	Launch and Impact Area Pilot-Balloon Measured Wind Data 1st T	7
7.	Launch and Impact Area Impact Area Pilot-Balloon Measured Wind Data 2nd T	8
8.	Aiming and T-Time Computer Met Messages	9
9.	WSD Significant Level Data at 0700 MST	10
10.	WSD Upper Air Data at 0700 MST	11
11.	WSD Mandatory Levels at 0700 MST	13
12.	LC-37 Significant Level Data at 0800 MST	. 14
13.	LC-37 Upper Air Data at 0800 MST	15
14.	LC-37 Mandatory Levels at 0800 MST	17
15.	WSD Significant Level Data at 0900 MST	18
16.	WSD Upper Air Data at 0900 MST	19
17.	WSD Mandatory Levels at 0900 MST	21
18.	LC-37 Significant Level Data at 1045 MST	22
19.	LC-37 Upper Air Data at 1045 MST	23
20.	LC-37 Mandatory Levels at 1045 MST	25

INTRODUCTION

19315B MLRS, Missile Numbers V15-006 and V28-009, Round Numbers V248/AT2-17 and V249/AT2-18, were launched from LC-33, White Sands Missile Range (WSMR), New Mexico, at 1001:38 and 1010:18 MST, 24 April 1982. The scheduled launch times were 1000 and 1005 MST.

DISCUSSION

Meteorological data were recorded and reduced by the White Sands Meteorological Team, Atmospheric Sciences Laboratory (ASL), White Sands Missile Range, New Mexico. The data were obtained by the following methods:

1. Observations

- a. Surface
- (1) Standard surface observations to include pressure, temperature (°C), relative humidity, dew point (°C), density (gm/m³), wind direction and speed, and cloud cover were made at the LC-33 Met Site at T-0 minutes.
- (2) Anemometer data were provided form existing pole-mounted and tower-mounted anemometers at LC-33. Monitor of wind speed and direction form one anemometer was also provided in the launch control room.
 - b. Upper Air
- (1) Low level wind data were obtained form pilot-balloon observations at:

SITE AND ALTITUDE

LC-33 2 Km Don 2 Km

(2) Air structure data (rawinsonde) were collected at the following Met Sites:

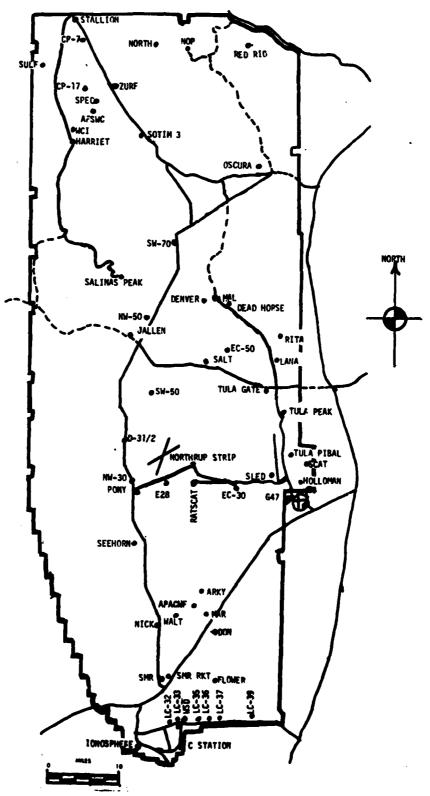
SITE AND TIME

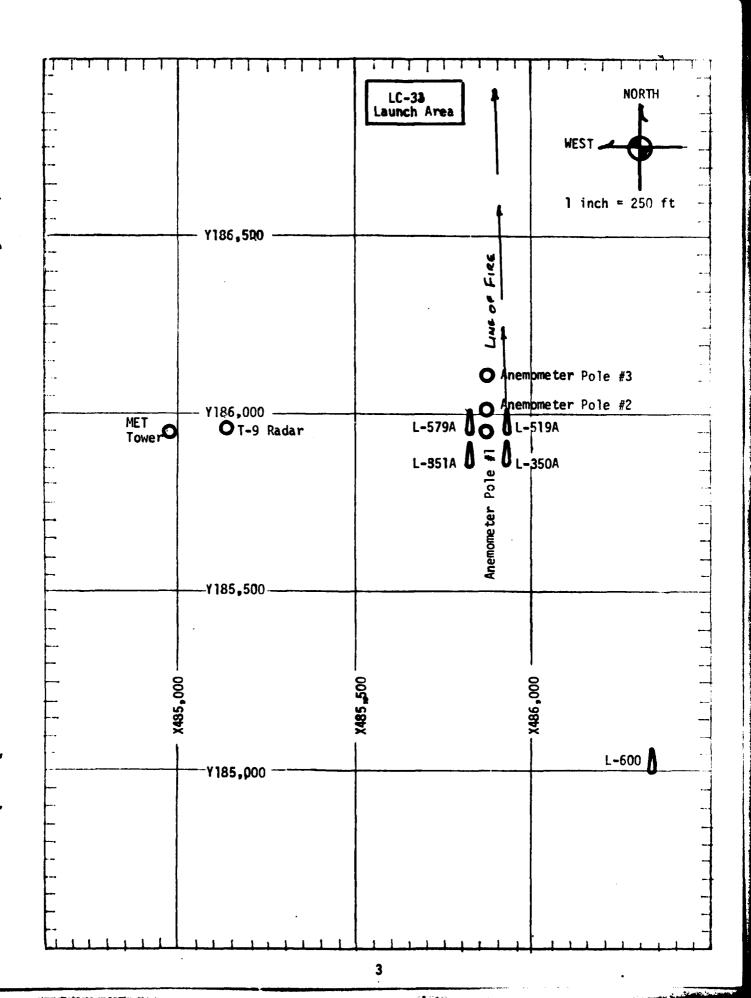
WSD 0700 MST LC-37 0800 MST WSD 0900 MST LC-37 1045 MST



Acces	sion For						
NTIS	GRA&I	Y					
DTIC	TAB	1					
Unanr	ounced						
Justi	fication_						
<u> </u>							
Ву	·						
Distribution/							
Avai	lability	Codes					
	Avail and	/or					
Dist	Special						
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П	k k						

WSMR METEOROLOGICAL SITES





PROJECT SURFACE OBSERVATION

TA3LE 1	1			l				STATICH IC 33 ERA	3 E&A		
DATE 24	App. 11	VEAT	,		ĺ			X= 484,982.65 Y= 185,957.73 H= 3995.00	Y= 1	85,957.73 н	= 3995.00
1185 T 281	PRESSURE C	TEMPERATURE OF OC		DEW POINT OF OC)!!!T 00	PELATIVE HUMIDITY %	DENSILY VERSILY	DI PECTION degs In	WIND SPEED kts	CHARACTER VISIBIL- kts ITY	VISIBIL- ITY
1003	879.3	-	17.0		0.4	33 ·	1051	222	02		9
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010	879.3	-	7.1		7	33	1050	285	9		•

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	1	ກວ	6,500							H ALODS
	1	no	cu 6,5 00							H ALODS

PSYCHROMETRIC COMPUTATION

TINE:	1003	1010	
DRY SULB TEMP.	17.0	17.1	
WET BULB TEMP.	8.5	8.6	
WET BULB DEPR.	8.5	8.5	
DEW POINT	0.4	0.5	
RELATIVE HUMID.	33	33	

POLE #1 X485,87 Y185,95 H4018.7 38.7 ft	8.90 4		POLE #2 X485,874 Y186,012 H4033.57 53.0 ft.	1.93 2.00		POLE #3 X485,87 Y186,110 H4063.92 83.6 ft	7.23 6.06 2	
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DI R DE G	SPLED KTS	T-TIME SEC	DIR DEG	SPEED KTS
T -30	CALM	CALM	T-30	172	02	T - 30	163	03
T-20	CALM	CALM	T-20	172	01	T-20	171	03
T-10	CALM	CALM	T-10	172	01	T-10	172	03
TO.0	CALM	CALM	T0.0	172	02	T _{0.0}	172	03
T+10	CALM	CALM	T+10	178	02	T+10	172	03

IABLE 3 LC-33 METEOROLOGICAL TOWER ANEMOMETER MEASURED WINDS (202 FT TOWER)

LEVEL #1, 1: X484,982.64		73, H3983.00 (base)	LEVEL #2, 62 X484.982.64,		3, H3983.00 (base)
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DER DEG	SPEED KTS
T-30	223	02	T-30	245	02
T-20	223	02	T-20	243	02
T-10	223	02	T-10	245	03
T0.0	222	02	T0.0	201	02
T +10	203	02	T+10	166	01

LEVEL #3, 10 X484,982.64	02 FEET Y185,057.7	3, H3983.00 (base)	LEVEL #4, 20 X484,982, Y1		13983.00 (base)
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS
T -30	219	02	T-30	192	02
T-20	231	02	T-20	209	02
T-10	231	02	T-10	212	03
To.0	180	01	T _{0.0}	233	07
T+10	226	01	T +10	255	03

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ı	****	1	•

POLE #1 X485,87 Y185,95 H4018.7 38.7 ft	8.90 4		POLE #2 X485,874 Y186,012 H4033.5 53.0 ft	1.93 2.00 7		POLE # X485,87 Y186,11 H4063.9 83.6 ft	7.29 6.06 2	
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DI R DE G	SPEED KTS	T-TIME SEC	DI R DE G	SPEED KTS
T - 30	MISSING	09	T - 30	246	09	T - 30	275	09
T-20	MISSING	10	T-20	267	08	T-20	264	11
T-10	MISSING	11	T-10	261	09	T-10	270	11
T0.0	MISSING	09	Т0.0	262	. 07	τ _{0.0}	280	12
T+10	MISSING	09	T+10	264	09	T+10	270	11

TABLE 5 LC-33 METEOROLOGICAL TOWER ANEMOMETER MEASURED WINDS (202 FT TOWER)

LEVEL #1, 1 X484,982.64		73, H3983.00 (base)	LEVEL #2, 62 X484.982.64,		3, H3983.00 (base)
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS
T-30	260	07	T-30	278	08
T-20	266	09	T-20	280	07
T-10	260	08	T-10	279	08
TO.0	283	07	T0.0	271	08
T+10	279	10	T+10	267	09

LEVEL #3, 10 X484,982,64)2 FEET Y185,057.7	3, H3983.00 (base)		LEVEL #4, 202 FEET X484,982, Y185,057.73, H3983.00 (base						
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS					
T - 30	270	11	T -30	261	10					
T-20	268	10	T -20	264	10					
T-10	273	09	T -10	267	10					
Τη.ο	260	09	10.0	259	10					
T +10	258	10	T +10	258	10					

T-TIME PILOT-BALLOON MEASURED WIND DATA

DATE 24 April 1982

SITE: LC-33

TIME: 1005 MST

WSTM COORDINATES:

X = 486,872.00

Y = 184,146.75

H= 3,981.15

SITE: Don

TIME 1003 MST

WSTM COORDINATES:

X = 511,988.37

Y = 247,396.36

H= 3,996.83

2000

LAYER MIDPUINI		•
METERS AGL	DEGREES	KNOTS

44575D0 401	DECOREC	MATC	
METERS AGL	DEGREES	KNOTS	
SURFACE	235	02	
150	259	80	
210	280	06	
270	248	80	
330	268	15	
390	270	16	
500	275	11	
650	291	17	
800	289	17	
950	286	17	
1150	291	20	
1350	294	22	
1550	296	25	
1750	301	26	
2000	310	29	

Data obtained form Nike-Herc Radar tracked pilot-balloon observation.

LAYER MIDPOINT	DIRECTION	SPEED
METERS AGL	DEGREES	KNOTS
SURFACE	255	06
150	288	07
210	296	80
270	302	09
330	307	10
390	304	11
500	299	14
650	287	16
800	288	15
950	296	15
1150	299	19
1350	304	19
1550	307	21
1750	311	25

Data obtained form single theodolite tracked pilot-balloon observation.

323

29

T-TIME PILOT-BALLOON MEASURED WIND DATA

DATE 24 April 1982

SITE: LC-33

TIME: 1011 MST

WSTM COORDINATES:

X = 486,872.00

Y = 184,146.75

H= 3,981.15

SITE: Don

TIME 1010 MST

WSTM COORDINATES:

X = 511,988.37

Y = 247,396.36

H= 3,996.83

LAYER MIDPOINT	DIRECTION	SPEED	
METERS AGL	DEGREES	KNOTS	
SURFACE	285	08	
150	293	07	
210	282	11	
270	277	09	
330	261	09	
390	271	12	
500	289	10	
650	283	11	
800	294	15	
950	305	14	
1150	287	16	
1350	297	18	
1550	302	20	
1750	304	27	

Data obtained form Nike-Herc Radar Tracked pilot-balloon observations

2000

312

30

LAYER MIDPOINT	DIRECTION	SPEED
METERS AGL	DEGREES	KNOTS
SURFACE	225	06
150	295	12
210	296	15
270	290	17
330	285	19
390	281	19
500	276	19
650	275	20
800	282	22
950	288	19
1150	282	17
1350	286	21
1550	280	24
1750	289	25
2000	318	29

Data obtained form single theodolite tracked pilot-balloon observations

TABLE 8

AIMING AND T-TIME COMPUTER MET MESSAGES 24 April 1982

WSD 0700	MST	LC-37 08	00 MST
METCM1324	064	METCM1324	063
241400122	880	241500124	879
00000000	27580880	00204002	28280879
01347005	27890869	01346012	28230868
02235002	28250843	02404007	28300842
03517010	28050803	03507016	28160803
04534017	27740755	04559018	27830755
05546023	27370710	05544021	27430710
06518026	27010667	06513025	27100667
07514032	26760626	07522034	26820626
08515036	26470587	08518032	26570587
09517038	26100550	09511034	26180551
10508038	25680515	10509037	25760516
11502036	25260482	11504036	25330482
12506043	24660435	12507042	24700435
WSD 0900	MST	LC-37 10	45 MST
WSD 0900 METCM1324		LC-37 10 METCM1324	
	064		063
METCM1324	06 4 879	METCM1324	063 878
METCM1324 241600122	064 879 28940879	METCM1324 241780124	063 878
METCM1324 241600122 00267005	064 879 28940879	METCM1324 241780124 00373010	063 878 2 93 60878
METCM1324 241600122 00267005 01353004	064 879 28940879 28680869	METCM1324 241780124 00373010 01480012	063 878 29360878 28980867
METCM1324 241600122 00267005 01353004 02460007	064 879 28940879 28680869 28530843	METCM1324 241780124 00373010 01480012 02503022	063 878 29360878 28980867 28670842
METCM1324 241600122 00267005 01353004 02460007 03546011	064 879 28940879 28680869 28530843 28220803	METCM1324 241780124 00373010 01480012 02503022 03509013	063 878 29360878 28980867 28670842 28330802
METCM1324 241600122 00267005 01353004 02460007 03546011 04549018	064 879 28940879 28680869 28530843 28220803 27820756	METCM1324 241780124 00373010 01480012 02503022 03509013 04548010	063 878 29360878 28980867 28670842 28330802 27820754
METCM1324 241600122 00267005 01353004 02460007 03546011 04549018 05552026	064 879 28940879 28680869 28530843 28220803 27820756 27490711	METCM1324 241780124 00373010 01480012 02503022 03509013 04548010 05566016	063 878 29360878 28980867 28670842 28330802 27820754 27310709
METCM1324 241600122 00267005 01353004 02460007 03546011 04549018 05552026 06542028	064 879 28940879 28680869 28530843 28220803 27820756 27490711 27110668	METCM1324 241780124 00373010 01480012 02503022 03509013 04548010 05566016 06576023	063 878 29360878 28980867 28670842 28330802 27820754 27310709 27650666
METCM1324 241600122 00267005 01353004 02460007 03546011 04549018 05552026 06542028 07546029	064 879 28940879 28680869 28530843 28220803 27820756 27490711 27110668 26870627	METCM1324 241780124 00373010 01480012 02503022 03509013 04548010 05566016 06576023 07537021	063 878 29360878 28980867 28670842 28330802 27820754 27310709 27650666 26740625
METCM1 324 241600122 00267005 01353004 02460007 03546011 04549018 05552026 06542028 07546029 08525033	064 879 28940879 28680869 28530843 28220803 27820756 27490711 27110668 26870627 26560588	METCM1324 241780124 00373010 01480012 02503022 03509013 04548010 05566016 06576023 07537021 08512029	063 878 29360878 28980867 28670842 28330802 27820754 27310709 27650666 26740625 26370586
METCM1324 241600122 00267005 01353004 02460007 03546011 04549018 05552026 06542028 07546029 08525033 09506037	064 879 28940879 28680869 28530843 28220803 27820756 27490711 27110668 26870627 26560588 26140551	METCM1324 241780124 00373010 01480012 02503022 03509013 04548010 05566016 06576023 07537021 08512029 09522031	063 878 29360878 28980867 28670842 28330802 27820754 27310709 27650666 26740625 26370586 26060549

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GEODETIC COOKDINATES 32.4U043 LAT DEG 106.37033 LON DEG

REL.HUM. PERCENT	10 11 11 11 11 11 11 11 11 11 11 11 11 1
TEMPERATURE IR DEWPOINT REES CENTIGRADE	
TEMPE AIR Degrees	
GEOMETRIC ALTITUDE MSL FEET	3989.0 4260.5 4558.9 4907.0 5170.9 6402.6 6712.6 110107.0 11950.6 16293.3 16293.3 16560.5
PRESSURE MILLIBARS	

STATION ALTI 24 APR. 82 ASCENSION NO	TUDE 39	3989.00 FEET M 0700 HRS MST 2	ET HSL MST	-	UPPER AIR DAIN 1140020172 WHITE SANDS TABLE 10	DATA 72 DS		GEODETIC 32.4U 106.37	DETIC COOMDINATES 32.4u043 LAT DEG 106.37033 LON DEG
GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	2	TEMPERATURE AIR DEWPOINT GREES CENTIGRADE	PEL HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	#INU DATA DIRECTION SI DEGREES(IN) KI	TA SPEED KNOTS	INDEX OF REFRACTION
3989.0	•	1.8	1.5	98.0	1111.1	646.	0	•	1.000282
4000.0	•	1.9	1.6	97.9	1110.0		291.7	•	1.000282
4500.0	862.9	5.8	2.5	96•0	1073.3		291.7	1.7	1.000262
5000.0	847.1	8.6	6•4	77.3	1043.2	9	291.7	4.6	1.000274
5500.0	-	∌• ¢	2.1	64.7	1025.8		291.7	5.1	1.000263
0.0009	816.4	7.2	6•	64.3	1011.4		291.7	6.8	•
6500.0	801.5	6•3	-1.5	57.1	996		293.2	9.3	•
7000.0	786.7	0.9	-7.3	37.7	980.5	651	295.0	12.7	1.000235
	•	2.5	-10.8	30.2	965.1	_	296.0	15.7	•
	757.9	•	-12.5	28.4	•	_	301.3	17.0	1.000223
	•	•	-13.2	29.0	937.0	_	302.4	18.3	•
90000	729.8	1.9	-13.9	29.6	923.3	646.5	304.8 404.4	19.7	1.000216
	2007	0 4	* * T	000	**************************************		30.00	7	•
10500.0	20.00	1 -	•	20.0	883.2	642.5	2070	0 . E	1.000000
			-21-3	21.8	869.9		294.7	25.5	1.000200
11500.0	663.6	-3.5	-25.2	16.6	856.8		292.3	27.5	•
		-4.5	-29.4	12.0	843.7		290•5	29.5	
•	638.5	-5.0	-29.5	12.5	829.1		289.1	31.6	•
13000.0	626.2	-5.5	-29.5	13.0	614.9	637	268.4	33.7	
_	•	# · 9 ·	-30·S	12.6	801.8		268.3	3 · 3 · 3 · 3 · 3 · 3 · 3 · 3 · 3 · 3 ·	
_	002.3	-7.2	-31.5	12.3	788.9		266.9	90 i	1.000178
15000.0	579.1	10	\$ 100 P	12.0	764.3	632.0	7.067	35.1	1.000175
	•	-10.4	-34.2	N	752.6		291.5	35.6	•
6070	556.7	-11.3	-35.1	12.0	741.1		500.5	36.5	1.000167
•	545.7	-12.7	-35.9	12.3	729.6		290.4	37.3	•
7000.	534.8	-14.0	-36-4	12.9	•	_	288.9	37.6	1.000162
17500.0	524.2	15.3	-37.0	13.5	708.0	625.6	267.2	37.7	1.000159
950	4 5 5						3.03	3.7.6	•
6	493.3	-19.1	100 m	16.0			283.4	37.5	1.000152
9500	483.2	1000	-38.8	17.5	0.6999		283.4	36.8	•
÷	473.3	-21.7	-39.0	19.0	655.7	617.8	283.4	36.0	.00014
20500.0	463.6	-23.0	-39.4	ė	645.6	-	283.6	36.3	1.000145
•	424.1	-24.3	-39.8	Ň	•	_	•	37.5	• 0001
1500		-25.6	n.04-	23.5	ທີ່				1.000141
•	430.0	-20.1		i c	กป				C1000
0.00052	420.0	121.1	5 · C · C	* · · ·	5.00	4.019			1.000136
•	•	50	0 * D ± 1	2007	*				CTOOL

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GEODETIC COORDINATES 32,40043 LAT DEG 106,37033 LON DEG	INDEX OF REFRACTION	1.000131
6600ET1	SPEED KNOTS	
	WIND DATA DIRECTION SPEED DEGREES(IN) KNOTS	
Sont'd	SPEED OF SOUND KNOTS	584.8 607.9
TABLE 10 Cont'd	DENSITY S GM/CUBIC METER	584.8
•	REL.HUM. PERCENT	16.2
T MSL MST	GEOMETRIC PRESSURE TEMPERATURE REL.HUM. DENSITY SPEED OF ALTITUDE AIR DEWPOINT PERCENT GM/CUBIC SOUND MSL FEET MILLIDARS DEGREES CENTIGRADE METER KNOTS	147.2 16.2
3989.00 FEET MSL 0700 HRS MST '2	TEMP AIR Degrees	7-29-7
.11TUDE 398	PRESSURE MILLIBARS	#00 600
STATION ALTITUDE 3 24 APR 82 ASCENSION NO. 172	GEOMETRIC ALTITUDE MSL FEET	23500.0

STATION ALTITUDE 3989.00 FEET MSL 24 Apr. B2 0700 HRS MST ASCENSION NO. 172	FET MSL 15 MST	Ī	MANDATORY LEVELS 1140020172 WHITE SANDS TABLE 11	EVELS 72 05		GEODETIC COORDINATES 32.40043 LAT DEG 106.37033 LON DEG
PRESSURE	GEOPOTENTIAL FEFT	TEMPE AIR DEGREES	TEMPERATURE AIR DEWPOINT DEGREES CENTIGRADE	REL.HUM. PERCENT	WIND DATA DIRECTION SPE DEGREES(TN) KN	ATA SPEED KNOTS
±03a	1 TO 0 TO 0	4.60	5.0		291.7	5.1
0.008	.0 6545		-2.4	Š	293.4	9.6
750		3.6	-12.9	29.		17.7
100		9.	-15.6	31.		22.8
.059		5.4-	-59.4	12.		29.6
•009		-7.4	-31.7	12.		Q**S
		-12.2	-35.6	12.		37.0
500		-16.3	-38.5	15.		37.5
-057		-24.9	0.04-	23.		36.1
		70.7	F '05'	144		

GEODETIC COORDINATES 32,4u175 LAT DEG 106.31232 LON DEG													
ATA	REL.HUM. PERCENT	80.0 89.0	82.0 72.0	0.64	46.0	42.0	43.0	25.0	20.0	20.0	33.0	29.0	23.0
SIGNIFICANT LEVEL DATA 1140160035 LC-37 TABLE 12	TEMPERATURE AIR DEWPOINT DEGREES CENTIGRADE	8.3 7.3	0 0 0	75.5	-3.7	-5.0 -9.0	-10.9	-20.7	-25.5	1.82	4070-	9.04-	n • ##-
SIGNIFIC 11 LC- TA	TEMPE AIR DEGREES	7.8	80 Q. 80 kJ.	7.8	7.1		~		5.0	-11-0	-56.0	-28.4	-30.0
75	GEOMETRIC ALTITUDE MSL FEET	4051.4	4952.9 5412.0	6037.9	0.0669	7640.7 9616.8	10168.6	12026.5 13088.3	14164.1	10390-7	21847.3	23073.9	24108.8
TITUDE 4051.37 FEET MSL 0800 HRS MST NO. 35	PRESSURE MILLIBARS	878.7	850.0 835.8	816.8 800.8	788.6	769.8 714.8	700.0	652.0 625.8	600.2	0.000			
STATION ALTITUDE 24 APR. 82 ASCENSION NO. 3													

STATION ALTITUDE 24 APR. 82 ASCENSION NO.	170c	4051.37 FEET MSI 0800 HRS MST 5	T MSL MST	-	UPPER AIR DATA 1140100035 LC-37 TABLE 13	0ATA 35		GEODETIC 32-4 106-3	DETIC COOMDINATES 32.4U175 LAT DEG 106.31232 LON DEG
GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMF AIR DEGREES	TEMPERATURE AIR DEWPOINT EGREES CENTIGRADE	REL HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION SI DEGREES(IN) KI	TA SPEED KNOTS	INUEX OF REFRACTION
051.	878.7	8.5	Ω .	80.0	1082.7	655.1	110.6	1.9	1.000284
4500.0	864.3	7.8	ស. ស.	85°	1067.3	Φ.	208.0	•	1.000281
5000.0	848.5	æ œ	න ජ ග	81.0	1043.9	655 655 655 655	2.57.0		1.000277
0.0009	817.9	, m.e0	2 8	68.2	1009.0	654.	279.b	• •	1.000261
6500.0	803.0	7.9	-1.5	51.6	992.9	653	200.9	15.5	
000	788.3	7.1	-3.8	45.9	977.8		292.2	•	•
7500.0	773.8	6.2	15.4	45.9	963.0		301.5	•	•
000	759.5		16.5	0.00	940°3	550 • 4	309.5 3.4	19.0	1.000230
	731.5	300	2.61	45.4	923.2	_	315.7		
	717.9	1.1	0.6-	46.7	910.5	645	310.4	•	•
10000	704.5	3.	-10.4	44.2	895.9	9449	303.7	19.6	.00021
0200	691.2		-12.5	39.8	881.9		297.2	21.1	1.000208
000	678.1	-1.5	-15.0	34.9	868.7		292.2	23.7	1.000203
500	665.3	-2.5	-17.6	30.1	852.6	641.	200.0	56.6	1.000198
	652.7	ស្លាំ ក	-20.6	25.3	842.8	639	288.6	30.0	1.000194
900	0.00°C	0 • 4	-21.5	0 -	029.0		30,000	26.90	1.000190
	6.5.6		7-22-	20.00	2.00		3.450	30.0	1.000183
000	0.409	-6.1	-25.0	20.6	787.7	636	254.3	31.0	.00018
500	592.3	-7-1	-25.9	20.5	775.2		294.2	31.2	•
5000	580.8	-8-0 -0	-26.6	21.1	763.5		293.9	31.6	•
	0 10 0 40 0 40 0 40	1001	2012-	22.5	740.6		288.	32.1	1.000171
6500.	547.5	-11.8	28.	23.2	729.4	630	245.6	33.2	1.000166
ė	536.6	-13-1	-29.5	24.3	718.5	629	594.4	3.30	1.000163
7500	526.0	-14.3	-29.8	25.3	7.07.7	650.8	284.1	35.7	1.000161
18000-0	515.5	-15.6	-30.5	26.4	697.2	625.3	26.50	37.1	1.000158
	1000	6.01		***	476	620	244	200	110001
19500.0	485.0	2001	7	* 0 ° 0 ° 0 ° 0 ° 0 ° 0 ° 0 ° 0 ° 0 ° 0	6666.9		286.0	V . E.	1.000151
000	475.1	-21.0	-33.9	30.0	656.1		280.6		1.000148
500	465.4	-22.3	-34.8	30.8	646.2		246.7	ņ	1.000146
900	455.9	23.	-35.8	31.6	636.5		286.3	•	1.000143
90	446.6	25.	-36.7	32.4	656.9	613.7	285.7	ė	1.000141
000	437.4	-26.3	-37.8	32.0	617.1	612.1	265.0	3 3 3 4 5	1.000139
	7.07		2.65	• • •	1 0000		-	•	000000
23500.0	410.5	-29.1	140.0	26.5	585.8	608.7			1.000131

JEODETIC COONDINATES 32.40175 LAT DEG 106.31232 LON DEG	INJEX OF REFRACTION	1.000129
VEODET 32	SPEED KNOTS	
	: PRESSURE TEMPERATURE REL.HUM, DENSITY SPEED OF AIND DATA AIR DEWPOINT PERCENT GM/CUBIC SOUND DIRECTION SPEED MILLIBARS DEGREES CENTIGRADE METER KNOTS DEGREES(TN) KNOTS	
DATA 35 Cont'd	SPEED OF SOUND KNOTS	575.3 607.7
UPPER AIR DATA 1140180035 LC-37 TABLE 13 Cont'd	DENSITY GM/CUBIC METER	575.3
_	REL.HUM. PERCENT	23.6
ET MSL MST	PERATURE DEWPOINT CENTIGRADE	1.9 -29.8 -44.0 23.6
11.37 FEI 1800 HRS	TEM AIR Degrees	-29.8
STATION ALTITUDE 4051.37 FEET MSL 24 apr. 62 0800 hrs mst Ascension no. 35	PRESSURE MILLIBARS	401.9
STATION AL 24 APR- 62 ASCENSION	GEOMETRIC ALTITUDE MSL FEET	24000.0 40

STATION ALTITUDE 4051.37 FEET MSL 24 APR. 82 0800 HRS MST ASCENSION NO. 35	E 4051.37 FEI 0800 HRS 35	et MSL MST	Σ	MANDATORY LEVELS 1140160035 LC-37 TABLE 14	SVELS		GEODETIC COOKDINATES 32.40175 LAT DEG 106.31232 LON DEG
	PRESSURE	PRESSURE GEOPOTENTIAL		TEMPERATURE	REL.HUM.		7
	MILLIBARS	FEET	A1K DEGREES (PERCENT	DIRECTION DEGREES(TN)	SPEED KNOTS
	850.0		8.8	5.9	82.		9•+
	800.0		7.8	-2.3	64		10.1
	750.0		4.2	-7.0	• t		18.7
	700.0		ņ	-10.9	43.		20.1
	650.0		-3.7	-20.9	25.		30.9
	0.009		-6.3	-25.5	20•		30.0
•	550.0		-11.5	-28.4	23.	286.2	32.9
	500.0	18736.	-17.6	-31.6	28•		38-1
	450.0		-24.5	-36.4	32.	•	39.7
	4 CC 4		0	# 17 th	ć	ı	

SIGNIFICANT LEVEL DATA 1140020173	WHITE SANDS TABLE 15
STATION ALTITUDE 3989.00 FEET MSL	24 APR. 62 0900 HRS MST ASCENSION NO. 173

GEODETIC COORDINATES 32.4U043 LAT DEG 106.37033 LON DEG

REL.HUM. PERCENT	59.0	54.0	48.0	•	•	37.0	40.0		34.0		22.0	-	22.0						
TEMPERATURE IR DEWPOINT REES CENTIGRADE	6•9	3.9	1.3	-3.5	-5.1	-11.4	•	÷	-17.2	-22.1	•	-43.6	ė						
TEMP AIR Degrees	14.8	13.0	11.9	6.1	8.8	1.7	•	するのー	-3.1	-6.7	-18.0	-28.2	ė	-42.3	-46.2	-46.7	-48.9	-50.2	-52.1
GEOMETRIC ALTITUDE MSL FEET	3989.0	4026.9		7448.9		9.6476	10139.5	1775.	12472.0	14241.0	6729	24106.4	27853.0	0701.	32351.2	3281.	34695.5	35684.2	38427.0
PRESSURE MILLIBARS	879.0	877.8	850.0	774.4	737.6	710.4	700.0	657.6	2.049	597.8	500.0	400.0	4.040	300.0	278.4	266.8	250.0	238.8	210.1

DETIC COORDINATES 32.40043 LAT DEG 106.37033 LON DEG	INUEX OF REFRACTION	1.000281	1.000279	.00026	1.000261	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	1.000251	42000	00023	•	1.000230	1.000224	1.000217	1.000212	1.000209	1.000203	1.000202	1.000192	1.000188	1.000185	1.000181	1.0001/8	1.000172	1.000169	.00016	1.000163		00015	1.000152		1.000147	1.000142	1.000140	1.000137	1.000135	1.000132
GEODETIC 32.4(SPEED KNOTS	6.4	4.8	2.3	6.0 6.7	;	0 0	11.7	14.5	-	20.3	23.1	25.3	26.7	26.9	0.07	27.1	8.80	29.8	30.5	31.4	32.4	35.2	36.8	37.6	37.8	37.1	36.4	37.7	•	60°0	44.5	46.1	47.7	49.3	51.1
	WIND DATA DIRECTION S DEGREES(IN) K	150.0	150.4	186.4	260.8		301.8	312.0	312.1	311.0	310.4	310.0	309.8	308.6	3000	20.00	30.40	306.6	305.2	302.0	298.9	2900	290.3	287.6	286.1	204.0	285.7	267.5	288.5 240.1	7.603	7.00 7.00 7.00 7.00	269.c	289.1	249.7	268.7	287.3
ATA S	SPEEU OF SOUND KNOTS	662.5	661.8	659.4	658.5	7.00	654.4	653.0	651.6	650.1	9.849	647.5	646.7	645.3	643.8	645·#	0-1-9	1,000	638.7	637.7	636.6	655.3	632.0	630.8	629.2	627.7	624.6	623.1	621.7	0.020	619.4	617.1	615.9	614.7	613.6	612.4
UPPER AIR DAT 1140020173 WHITE SANDS TABLE 16	DENSITY S GM/CUBIC METER	1058.9	1060.6	1049.2	1033.2	0.0701	1.004.2	976.2	962.5	0.646	935.8	951.6	9.906	893.4	880.8	D	4000 4000	806.0	813.0	800.0	787.2	763.	752.0	740.7	729.7	708.1		687.2	676.3	6.00	653.6 642.6	631.6	21.	610.8	00	590.5
	REL . HUM. PERCENT	59.0	57.5	50.8	1.84) · O · O	49.6	50.2	52.5	54.8	51.3	41.8	38.9	41.0	40.4 40.4		0.00	32.2	30.5	28.8	7.70		25.6	25.0	0 4 0 4 0 4 0 4	23.0	22.3	21.9	K * * * *	21.8	21.6	21.5	21.4	21.3	21.2
T MSL MST	TEMPERATURE AIR DEWPOINT EGREES CENTIGRADE	6.9	0.9	2.5	101	y (-1.7	-2.7	-3.6	-4.2	8-4-	-6.5	9•6-	-11.5	-11.9	-12.5	0.61	17.4	-18.7	-20.0	-21.4	-22·B	-25.6	-26.9	-28.3	-29.7	-32.4	8 · C · C	0.40°	0.00	-36-6	-38.3	-39.2	0.04-	6.04-	-41.7
3989. ₀ 0 FEET MSL 0900 HRS MST 3	TEMP AIR DEGREES	14.8	14.3	12.4	1107	o i) (C	7.1	0.9	4.7	4.0	2.5	2.0	6	.	0 • 1	94	13.7	9.4	-5.4		1.	6.6	-111-1	-12.4	11.	-16.2	-17.4	1 0 0 0	7	150	-22.3	-23.3	-54.5	-25.5	-26.1
.T.I.TUDE NO. 17	PRESSURE MILLIBARS	879.0	٠	862.9	847.3	400	801.9	787.3	772.9	758.6	744.6	730.7	717-1	703.7	9.069	4.7.70	000	5.00	627.2	615.2	603.4	591.	568.6	557.4	340	595.1	514.7	504.6	# * # # # # # # # # # # # # # # # # # #	0	474.5	•	J	36.	27.	418.8
STATION ALTI'S 24 APR. B2 ASCENSION NO.	GEOMETRIC ALTITUDE MSL FEET	3989.0	8	•	5000.0	•	6500.0		_	_	_	•							13000.0							17500-0		6500.	19000-0	900	20500.0 20500.0	000	0	000	22500.0	23000.0

STATION ALTI	TUDE	3989.00 FEET MSL 0900 HRS MST	T MSL MST	_	UPPER AIR DATA 1140020173 WHITE SANDS	0ATA 73 0S		GEODET 1		
ASCENS I ON	NO. 173				TABLE 16 Cont'd	Cont'd		106	06.37033 LON DEG	
GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	_	TEMPERATURE AIR DEWPOINT DEGREES CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEEJ OF SOUND KNOTS	#INU DATA DIRECTION S DEGREES(IN) K	TA SPEED KNOTS	INLEX OF REFRACTION	
23500.0	410.2	-27.0	-42.6	21.1	580.6	611.2	266.0	52.8	1.000130	
24000.0	401.8	-28.0	43.4	21.0	570.9	610.0	284.0	54.1	1.000128	
24500.0	393.5	-29.1	10 · 33 -	21.1	561.2		282.2	55.4	1.000126	
25000-0		-30-1	-45.2	21.2	551.7	607.3	280.5	56.7	1.000124	
25500.0		-31.2	-46.1	21.4	542.4		280.1	57.8	1.000121	
26000-0	368	-32-3	6.94-	21.5	533.2	_	279.6	59.0	•	
26500.0	360.	4.66-	-47.8	21.6	524.2	603.3	279.4	59.9	1.000117	
27000.0	353.	-34.5	-48.7	21.8	515.4	601.9	279.4	60.2	1.000115	
27500.0	UA SO	-35.5	9.6%-	21.9	506.7		279.4	60.5	1.000113	
28000.0		-36.6	-50.9	**6*07	498.0		279.1	61.0	1.000111	
28500.0	330	-37.7	-53.5	17.0**	489.3		278.5	9.19	1.000109	
29000.0	323.	-38.7	-56.5	13.1**	480.7		277.9	62.3	1.000107	
29500.0	316.	-39.8	-60.1	9.3**	472.3		277.6	62.7	1.000105	
30000	309.	8.04-	6.49-	5.4**	464.1		277.4	62.8	1.000103	
30500.0	302	-41.9	-74.2	1.6**	455.9	592.5	277.2	65.8	1.000102	
31000.0		-43.0			448.0		277.0	63.1	1.000100	
31500.0		144.2			440.2		276.0	63.6	1.000098	
32000.0		1-63-4			432.6		276.2	64.0	1.000096	
32500.0	276.5	-46.3			454.6		275.7	65.6	1.000095	
33000.0	270.3	-46.5			415.5	586.4	275.0	69.5	1.000093	
33500.0	264.	-47.0			406.9		274.4	71.3	1.000001	
34000.0	256.	9-24-			399.1	564.8	274.3	71.5	1.000089	
34500.0	252.	-48.6			391.3	583.8	274.3	70.9	1.000087	
35000.0	246.	-49.3			383.6		274.3	69.6	1.000085	
35500.0	240	-50.0			375.9		274.4	99	1.000084	
36000.0	235.3	-50.4			368.0		274.4	62.8	1.000082	
36500.0	229.9	-50.8			360.1				1.000080	
37000.0	224.6	-51.1			352.3				820000-1	
37500.0	219.4	8.4.6.			いっせいの	580-1			1.000077	
3.3300	C - + T y	0.10			?				•	

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

GEODETIC COOKDINATES 32,40043 LAT DEG 106.37033 LON DEG	WIND DATA DIRECTION SPEED		251•8 2•6												274.3 70.7
Evels 73 05	REL.HUM. PERCENT		•94	.6 1	54.	* 0 *	4.1.	28.	25.	22.	22.	21.	22.		
MANDATORY LEVELS 1140020173 WHITE SANDS TABLE 17	TEMPERATURE AIR DEWPOINT DEGREFS CENTIGRADE		1.3	-1.8	34.5	-11.6	-14.9	-21.8	-27.8	7.46-	-38.8	-43.6	-49.1		
Σ	TEMP AIR DFGREFS	j ;	11.9	8.1	3.9	•	-3.5	-6.5	-12.0	-18.0	-22.8	-28.2	-34.9	-42.3	6-84-
r MSL MST	OPOTENTIAL FEET	•	4910.	6564.	8300.	10130.	12064.	14130.	16338.	18704.	21263.	24067.	27167.	30641.	34621.
TUDE 3989.00 FEET MSL 0900 HRS MST • 173	PRESSURE GEOPOTENTIAL MILLIAARS FEFT	· •	850.0	800·u	150.0	700.0	650.0	0.009	550.0	200.0	450.0	0.004	350.0	300.0	250.0
STATION ALTITUDE 24 APR. 82 ASCENSION NO. 17															

AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

L DATA VEODETIC COOKDINATES 32.40175 LAT DEG 106.31232 LON DEG	REL. HUM. PERCENT		31.0	28.0	30.0	42.0	54.0	0.49	73.0	68.0	43.0	27.0	30.0	36.0	30.0	22.0	18.0	16.0	16.0
SIGNIFICANT LEVEL DATA 1140180037 LC-37 TABLE 18	TEMPERATURE AIR DEWPOINT	DEGREES CENTIGRADE	1.5	-2.1	-3.6	0.4-	-5.5	-6.9	6.9-	-7.8	-13,3	-22.6	-22.9	-24.5	-26.3	-34.5	-39.3	143.5	-46.7
SIGNIFI 1 1 LC LC			19.0	16.4	13.6	8.1	2.9	-1.7	-2.8	-2.7	-2.5	-6.8	-8.5	-12.6	-12.4	-18.1	-21.4	-25.1	-28.9
1SL	E GEOMETRIC	S MSL FEET	4051.4	4237.4	8.0464	7091.0	8719.0	10171.7	10411.6	10736.9	11423.6	13548.0	14274.0	16127.4	16528.7	18733.7	20006.5	22472.6	24099.7
STATION ALTITUDE 4051.37 FEET MSL 24 APR. 82 1045 HRS MST ASCENSION NO. 37	PRESSURE	MILLIBARS	877.6	871.8	850.0	785.8	739.6	0.02	. 693.6	0.685.0	667.2	614.6	4.765	555.2	246.4	500.0	9.474	458.4	0*00#

METER KNOTS DEGREES(IN) KNOTS HE 1043.4 666.9 210.0 9.9 1040.5 662.4 235.7 9.4 11.0 1014.7 658.8 255.7 9.4 11.0 1014.7 658.8 278.4 11.0 9.9 9.10.0 657.3 285.7 948.7 650.7 285.9 11.3 924.0 10.7 936.0 652.5 299.0 10.7 936.0 643.1 294.0 10.7 936.0 643.1 299.0 10.7 936.0 643.1 294.0 10.7 936.0 643.1 294.0 10.7 936.0 643.1 294.0 10.7 936.0 643.1 294.0 10.7 936.0 643.1 294.0 10.7 936.0 643.1 294.0 23.2 857.0 639.0 23.4 288.9 22.7 644.0 23.0 22.7 646.9 23.4 288.5 289.0 23.4 288.5 289.0 22.7 744.8 629.4 288.5 289.0 28.7 744.8 629.4 288.5 289.7 38.3 666.9 619.8 289.7 38.3 666.9 619.8 289.7 38.3 666.9 619.8 289.7 38.3 666.9 619.8 289.7 38.3 652.7 613.8 614.5 289.7 56.7 611.8 614.5 289.7 56.7 611.8 614.5 289.7 56.7 611.8 614.5 289.7 56.7 651.7 611.7 6	STATION ALTITUDE 40 24 APR. 82 ASCENSION NO. 37 GEUMETRIC PRESSURE	51. 104	ET MSL MST PFRATURE	-	UPPER AIR 11401800 LC-37 TABLE 19	37 A		<u> </u>	O = 0
1.5 31.0 1043.4 666.9 210.0 9.9 -2.7 28.7 1040.5 662.4 235.7 9.4 -3.6 33.1 1026.8 662.4 235.7 11.0 -3.6 33.1 1000.8 657.3 285.9 15.0 -4.3 41.5 1000.8 657.3 285.9 11.0 -4.3 45.0 976.1 655.8 299.0 10.7 -4.3 45.0 976.1 655.8 299.0 10.7 -5.2 56.7 948.7 948.7 650.7 299.0 10.7 -5.2 56.7 948.7 948.7 641.2 319.3 11.3 -5.2 56.7 948.7 641.2 319.3 11.3 -5.2 56.7 948.7 641.2 319.3 11.3 -5.2 66.3 90.6 641.2 323.6 13.2 -5.2 66.3 90.6 641.2 323.6 23.6 -5.3 11.3 90.7 638.9 31.6 -5.4 85.6 17.8 81.9 82.0 289.0 22.7 -5.5 56.7 948.6 636.1 289.0 28.6 -5.6 56.3 90.6 624.6 289.0 289.0 28.6 -5.7 56.0 10.0 624.6 289.7 288.7 30.6 -5.8 56.0 10.0 624.6 289.7 38.3 36.0 -5.9 56.0 10.0 624.6 289.7 38.3 36.0 -5.9 56.0 10.0 624.6 289.7 38.5 26.7 38.6 64.0 -6.6 66.3 90.0 624.6 289.7 38.5 26.7 38.6 64.0 -6.6 66.9 619.8 289.7 38.5 26.7 38.6 64.0 -6.6 66.9 619.8 289.7 289.7 38.5 64.0 -6.6 66.9 619.8 289.7 289.7 38.5 64.0 -6.6 66.9 619.8 289.7 289.7 38.5 64.0 -6.6 66.9 619.8 289.7 289.7 289.7 36.7 64.5 64.5 64.5 64.5 64.5 64.5 64.5 64.5	Ö	REES	1	PERCENT	GM/CUBIC METER	SCUND KNOTS	a	SPEED KNOTS	NOEA OF HEFRACTION
-3.6 33.1 1020.8 657.3 285.9 11.0 11.0 11.0 11.0 11.0 11.0 11.0 11	7.6 19	0:	1.5	31.0	1043.4	999	210.0	6.6	•
10.00	_ (.	7.7	782	1040.5		2000	7	•
-3.6 35.9 1000.8 657.3 285.9 15.6 11.3 14.3 14.5 997.0 656.3 289.1 11.3 14.5 997.0 656.3 289.1 11.3 14.5 997.0 658.3 289.1 11.3 14.5 997.0 658.3 289.1 11.3 11.3 14.5 997.0 658.3 289.1 11.3 11.3 14.5 997.0 648.0 309.3 11.3 11.3 11.3 11.3 11.3 11.3 11.3 1		+ ^	9.5	50°5	1014.7		2702	14.1	• •
-3.7 38.7 997.1 655.8 289.1 13.4 -4.0 41.5 973.6 654.3 243.4 11.3 -4.1 48.1 98.7 948.7 650.7 304.6 10.7 -5.2 52.4 936.6 648.8 309.3 11.3 -5.2 52.4 936.6 648.8 309.3 11.3 -5.2 52.4 936.6 648.8 313.6 11.3 -5.2 52.4 936.6 648.8 313.6 11.3 -5.2 52.4 924.5 645.0 313.6 11.3 -7.2 71.6 888.9 641.3 323.6 21.2 -13.6 62.8 898.9 641.3 323.6 23.4 -13.7 38.7 88.2 639.9 316.9 23.4 -23.1 30.7 780.4 634.7 288.5 23.4 -23.1 30.7 780.4 634.7 288.5 23.4 -23.2 32.4 768.6 620.2 288.7 30.2 -24.4 35.6 77.2 621.4 288.7 38.3 -24.9 26.5 76.6 620.2 288.7 38.3 -24.0 19.6 656.8 619.8 289.7 38.3 -40.1 17.6 645.2 617.3 290.4 37.7 -41.0 17.2 651.8 617.3 290.4 37.7 -41.0 17.2 651.8 617.3 290.4 37.7 -41.0 17.2 651.8 617.3 290.4 37.7 -41.0 17.2 651.8 617.3 290.4 37.7 -41.0 17.2 651.8 617.3 290.4 37.7 -41.0 17.2 651.8 617.3 290.4 37.7 -41.0 17.2 651.8 617.3 290.4 37.7 -41.0 17.2 651.8 617.3 290.4 37.7 -41.0 17.2 651.8 617.3 290.4 37.7 -41.5 16.0 691.0 613.5 209.1 68.7 -41.5 16.0 691.0 613.5 209.1 68.7 -41.5 16.0 691.3 612.1	_	10	-3.6	35.9	000		285.9	15.6	•
-4.0 41.5 973.6 654.3 293.4 11.3 -4.3 45.0 961.0 652.5 299.0 110.7 -5.2 52.4 936.0 648.8 301.0 10.7 -5.3 56.7 924.5 646.9 311.0 110.7 -5.4 61.5 972.5 645.0 311.0 13.2 -7.6 56.3 906.6 643.1 312.0 13.2 -7.6 56.3 906.6 643.1 312.0 13.2 -7.7 76.3 44.0 72.4 641.1 323.0 21.2 -13.6 42.4 855.7 641.1 323.0 23.2 -13.6 42.4 855.7 641.1 323.0 23.2 -13.6 58.4 855.7 641.1 323.0 22.3 -20.0 31.1 862.6 639.9 316.9 22.7 -22.1 36.7 768.3 632.1 289.0 22.7 -23.1 30.7 768.3 632.1 289.0 22.7 -24.0 35.6 77.2 621.1 289.7 30.6 -37.1 19.6 656.9 619.8 289.7 36.0 -37.1 19.6 656.9 619.8 289.7 38.3 -41.0 17.2 665.9 619.8 289.7 38.6 -41.0 17.2 653.9 918.3 290.4 45.4 -42.7 16.4 611.8 612.1 289.7 56.7 -44.5 16.0 651.0 612.1 289.7 56.7 -44.5 16.0 651.0 613.5 289.1 56.7 -44.5 16.0 651.0 612.1 289.7 56.7 -44.5 16.0 651.0 613.5 289.1 56.7 -44.5 16.0 651.0 612.1 289.7 56.7	,	ဖ	-3.7	38.7	987.		289.1	13.4	•
-4.3 45.0 961.0 652.5 299.0 10.7 -4.7 48.7 936.0 648.8 309.3 11.3 -5.2 52.4 936.0 648.8 309.3 11.3 -5.6 66.3 900.6 643.1 319.3 11.3 -5.6 66.3 900.6 643.1 319.3 11.3 -5.6 66.3 900.6 643.1 319.3 11.3 -5.6 58.4 871.8 641.2 324.0 19.2 -13.6 42.4 871.8 641.3 323.0 21.2 -13.6 42.4 871.8 641.3 323.0 23.4 -13.6 42.4 871.8 641.3 323.0 23.4 -22.4 27.4 842.6 639.9 316.9 22.7 -22.8 28.9 780.4 634.7 291.5 26.3 -23.9 34.0 780.4 634.7 291.5 26.3 -23.9 34.0 780.4 634.7 291.5 26.3 -24.0 35.6 70.6 620.2 288.1 31.1 -24.0 78.6 620.2 288.1 31.1 -24.9 26.5 708.6 620.2 288.1 31.1 -24.1 19.6 666.9 619.8 289.7 38.3 -41.0 17.2 645.2 617.3 290.4 37.7 -41.0 17.2 645.2 617.3 290.4 37.7 -41.0 17.2 645.2 617.3 290.4 37.7 -41.0 17.2 645.2 617.3 290.4 37.7 -41.0 17.2 645.2 617.3 289.7 56.7 -41.5 16.0 651.0 613.5 209.1 68.7		М	0.4-	41.5	973.6	_	4.5.4	11.3	•
-4.7 48.7 948.7 650.7 304.6 10.7 -4.7 48.7 948.7 650.7 304.6 11.3 -5.2 52.4 924.6 648.8 309.3 11.3 11.3 -6.6 66.3 924.6 648.8 309.3 11.3 11.3 -6.6 66.3 900.6 643.1 319.3 17.1 -6.6 66.3 900.6 643.1 319.3 17.1 17.1 17.1 17.1 17.1 17.1 17.1 17		6 0	₽•#-	45.0	961.0		299•0	10.7	•
-5.2 52.4 936.6 648.8 309.3 11.3 11.3 15.1 15.1 15.1 15.1 15.1 15		٠	L.4-	48.7	48.7	650.7	304.6	10.7	•
-5.7 56.7 924.5 646.9 311.6 13.2 -6.1 61.5 912.5 645.0 313.6 15.1 -6.6 66.3 9012.5 645.0 313.6 15.1 -7.2 71.6 888.9 641.2 3.24.0 19.2 -7.5 71.6 888.9 641.2 3.24.0 19.2 -13.6 42.4 871.8 641.3 3.24.0 23.2 -22.8 871.8 641.3 3.24.0 23.2 23.4 22.8 872.6 639.9 316.9 23.4 22.8 872.6 639.9 316.9 23.4 22.8 872.6 639.9 316.9 22.7 780.4 634.7 291.5 291.5 22.8 730.7 780.4 634.7 291.5 291.5 22.8 730.7 780.4 634.7 291.5 291.5 22.8 730.5 629.2 2288.4 30.2 22.8 730.5 629.2 2288.4 30.6 22.9 22.8 650.9 22.9 22.9 22.9 22.9 37.5 231.7 22.9 22.8 650.9 22.9 22.9 22.9 22.9 22.9 22.9 22.9 2		٠	-5.5	52.4	•	-	309.3	11.3	٠
-6.1 61.5 912.5 645.0 313.0 15.1 -6.6 66.3 900.6 643.1 319.3 17.1 17.1 -6.6 66.3 900.6 643.1 319.3 17.1 17.1 -6.6 66.3 900.6 641.2 3.24.0 17.1 19.2 17.6 886.9 641.3 3.25.0 21.2 17.8 871.8 641.3 3.25.0 21.2 17.8 872.6 639.9 3.09.0 23.2 17.0 635.1 200.9 22.7 17.6 887.6 636.0 200.9 22.7 17.6 636.0 200.7 200.9 22.7 17.6 63.0 17.0 200.7 200.9 20.2 20.0 17.6 620.2 200.4 200.7 200.9 20.0 20.0 20.0 20.0 20.0 20.0 20.		_	-5.7	56.7	954.5	949	311.0	13.2	•
-6.6 66.3 900.6 643.1 319.3 17.1 17.2 71.6 888.9 641.2 324.0 19.2 71.6 42.4 871.8 641.3 325.0 23.2 17.6 42.4 871.8 639.9 319.0 23.2 17.6 42.4 875.7 641.1 322.0 23.2 17.6 34.9 829.7 638.6 39.9 319.0 23.4 17.6 34.9 637.4 296.3 22.7 22.8 22.4 288.9 22.7 22.8 22.7 22.6 22.7 22.6 22.7 22.6 22.7 22.6 22.7 22.6 22.7 22.6 22.7 22.6 22.7 22.6 22.7 22.6 22.7 22.6 22.7 22.6 22.7 22.6 22.7 22.6 22.7 22.6 22.7 22.6 22.7 22.6 22.6	•	_	-6.1	61.5	912.5		313.0	15.1	•
-7.2 71.6 886.9 641.2 324.0 19.2 13.6 42.4 42.4 855.7 441.1 323.0 21.2 13.6 42.4 855.7 441.1 323.0 21.2 13.6 42.4 855.7 441.1 323.0 23.4 17.8 842.7 638.6 309.0 23.4 22.4 22.4 22.4 22.4 22.4 22.4 22.4	-1.5		9.9-	66.3	9.006		319.5	17.1	•
-13.6 42.4 855.7 641.1 352.0 23.2 -13.6 42.4 855.7 638.0 309.0 23.4 -15.7 38.7 84.9 323.0 23.4 -15.7 38.9 38.9 309.0 23.4 -20.0 31.1 817.0 637.4 302.9 22.7 22.6 22.4 23.1 29.1 291.5 22.8 -23.1 30.7 768.3 63.0 269.2 269.0 269.4 223.5 32.4 756.5 630.7 269.2 269.4 269.4 269.6 22.7 269.0 269.4 30.6 -23.0 269.2 269.4 30.6 -23.0 269.2 269.4 30.6 -23.0 269.2 269.4 30.6 -23.0 269.2 269.4 30.6 -23.0 269.2 269.4 30.6 -23.0 269.2 269.4 30.6 -23.0 269.2 269.4 30.6 -23.0 269.2 269.4 30.6 -23.0 269.2 269.4 30.6 -23.0 269.0 269.0 269.7 36.0 -23.0 269.0 269.0 269.0 37.5 -23.0 269.0 269.0 269.0 37.5 -40.1 17.2 652.7 615.4 290.7 36.0 -40.1 17.2 653.9 610.3 2290.4 37.7 -40.1 17.2 653.9 610.3 2290.7 36.0 -40.1 17.2 653.9 610.5 269.7 36.0 -40.1 17.2 653.9 610.5 269.7 56.7 11.0 17.2 653.9 610.5 269.7 56.7 11.0 26.0 20.0 610.5 26.2 11.0 269.7 56.7 11.0 26.0 20.0 610.5 26.2 11.0 269.7 56.7 11.0 26.0 20.0 610.5 26.2 11.0 269.7 56.7 11.0 26.0 20.0 610.5 26.2 11.0 269.7 269.7 269.7 269.7 269.7 269.0 610.0 613.5 209.1 660.7 660.0 610.5 260.7 11.0 610.5 20	2.5	- .	2.7-	71.6	7.888 7.888		324.0	19.2	•
-13.6 42.4 639.9 316.9 23.4 17.8 34.9 639.9 316.9 23.4 17.8 34.9 639.9 316.9 23.4 17.8 34.9 636.1 296.3 22.8 22.8 22.8 23.4 23.1 30.7 780.4 634.7 291.5 22.8 22.8 23.4 288.5 22.8 23.4 288.5 22.8 23.4 288.5 22.8 23.4 288.5 22.8 28.4 288.7 288.7 28.5 23.4 288.7 28.5 23.4 288.7 28.5 23.4 288.7 28.5 23.6 22.8 28.4 288.7 288.7 28.5 23.5 22.8 22.8 22.8 22.8 22.8 22.8 22.8 22	o r		9.6	# # # # # # # # # # # # # # # # # # #	21/0		2626	21.2	• 000020
-17.6 34.9 829.7 639.9 319.9 23.4 -17.6 34.9 829.7 638.6 309.0 23.4 -22.4 22.4 22.4 302.9 22.7 -22.4 22.6 22.4 22.6 22.6 22.6 3.2 22.6 32.4 792.4 633.4 288.5 22.8 22.6 32.4 730.2 629.2 288.5 22.6 730.2 629.2 288.1 31.1 -23.5 22.6 620.2 629.4 288.1 31.1 -24.4 35.6 620.2 288.1 31.1 -24.9 26.5 708.6 620.2 288.1 31.1 -24.9 26.5 708.6 620.2 288.1 31.1 -24.9 26.5 708.6 620.2 288.5 32.3 -24.0 19.6 620.2 289.7 38.5 -40.1 17.6 645.2 617.3 290.4 37.5 -41.0 17.2 655.8 618.5 290.4 37.7 38.6 -41.0 17.2 652.7 615.4 289.7 56.7 -41.8 16.8 612.0 613.5 229.7 56.7 -41.5 16.0 611.0 613.5 229.1 56.7 591.7 612.1 56.7 591.7 612.1 56.7 591.7 612.1 56.7 6	7		9.01	1 to 0	455.7		343.0	23.2	.00020
-20.0 31.1 817.0 637.4 302.9 22.7 -22.4 27.4 804.6 636.1 296.3 22.8 -23.1 30.7 780.4 634.7 291.5 24.5 -23.1 30.7 780.4 633.4 288.5 22.8 -23.5 32.4 768.3 632.0 288.5 26.3 -24.4 35.6 74.5 630.7 288.7 30.2 -24.4 35.6 74.5 629.4 288.7 30.2 -24.9 26.5 708.6 629.2 288.1 31.1 -24.9 26.5 708.6 629.2 288.1 31.1 -24.9 26.5 708.6 629.2 288.5 32.3 -33.6 22.8 687.6 624.6 289.7 38.3 -33.6 22.8 656.8 618.2 289.7 38.3 -40.1 17.2 656.8 618.2 290.4 37.7 -41.0 17.2 653.9 616.3 2290.4 37.7 -41.0 17.2 633.9 616.3 2290.4 37.7 -41.0 17.2 633.9 616.3 2290.4 37.7 -41.8 16.8 614.5 289.7 56.7 -41.5 16.0 601.0 613.5 2299.1 68.7 -41.5 16.0 601.0 613.5 2299.1 68.7 -41.5 16.0 591.7 610.4	7 =	. 🕳	-17.8	0.00	829.7		309.0	23.5	.00019
-22.4 27.4 634.6 636.1 296.3 22.8	-5-1		-20.0	31.1	817.0		302.9	22.7	1.000189
-22.6 28.9 792.4 634.7 291.5 24.5 1-23.1 30.7 780.4 633.4 288.5 26.3 1 26.3 1 26.3 1 288.5 25.3 1 20.7 756.5 630.7 289.0 289.0 26.3 1 224.4 35.6 746.5 630.7 269.0 269.0 29.9 1 280.7 20.6 20.0 20.0 20.0 20.0 20.0 20.0 20.0	-6-7	_	-22.4	27.4	9.408		296.3	22.8	1.000185
-23.1 30.7 760.4 633.4 286.5 26.3 1 23.5 32.4 768.3 632.0 289.0 289.0 29.9 34.0 756.5 630.7 289.0 289.0 29.9 35.6 30.4 633.4 289.2 289.0 29.9 730.5 629.4 288.1 30.2 28.0 28.0 28.0 28.0 28.0 28.0 28.0 2	-7-	_	-22.8	28.9	792.4		291.5	24.5	1.000182
-23.9 34.0 756.5 630.7 269.2 29.9 34.0 756.5 630.7 269.2 29.9 30.0 744.4 529.4 288.7 30.2 24.4 35.6 719.3 629.2 288.4 30.6 289.7 26.5 30.6 289.4 288.4 30.6 289.9 26.5 708.6 620.2 288.5 32.3 31.1 23.6 620.2 289.4 288.7 34.3 31.1 25.5 21.2 650.8 618.2 289.7 38.3 31.5 290.4 37.5 37.5 37.5 37.5 37.5 37.5 37.5 37.5	6	٥-	-23.1	30.7	760.4		288.5	26.3	1.000179
-24.4 35.6 744.8 629.4 288.7 30.2 126.2 30.4 730.5 629.2 288.4 30.6 179.3 627.7 288.1 31.1 129.9 26.5 708.6 620.2 288.4 30.6 131.1 125.5 22.8 620.0 289.7 36.0 132.3 125.5 21.2 677.2 621.4 289.7 36.0 125.5 21.2 677.2 612.4 289.7 36.0 125.5 21.2 656.8 618.2 289.7 38.3 12.4 17.6 645.2 617.3 290.4 37.7 12.4 19.8 16.8 645.2 617.3 290.4 37.7 12.4 12.7 16.4 611.8 614.5 289.7 56.7 12.4 12.7 16.4 611.8 614.5 289.7 56.7 12.4 13.5 16.0 601.0 613.5 229.1 68.7 14.5 16.0 591.7 610.5		٠ ٨	6.52	36.0	756.5		269.5	29.9	.00017
-26.2 30.4 730.5 629.2 286.4 30.6 179.3 627.7 286.1 31.1 29.9 26.5 708.6 620.2 286.1 31.1 170.3 627.7 286.1 31.1 17.5 698.0 620.2 286.5 32.3 17.2 24.7 698.0 624.6 289.7 36.0 17.2 656.8 619.8 289.7 36.0 17.5 645.2 617.3 290.4 37.7 17.6 645.2 617.3 290.4 37.7 17.6 645.2 617.3 290.4 37.7 17.6 645.2 617.3 290.4 37.7 17.6 645.2 617.3 290.4 37.7 17.5 645.2 617.3 290.0 45.4 17.5 652.7 613.5 289.7 56.7 17.5 67.5 16.0 601.0 613.5 289.7 56.7 17.5 617.3 617.5 289.7 56.7 17.5 617.3 617.5 289.7 56.7 17.5 6	-12.	m	-24.4	35.6	744.8		288.7	30.2	1.000171
-28.0 28.3 719.3 627.7 288.1 31.1 12.9.9 26.5 708.6 626.2 288.5 32.3 12.3 13.7 24.7 24.7 24.7 24.5 698.0 624.6 2289.4 34.3 13.5 23.6 22.8 687.6 623.0 289.7 36.0 13.5 13.6 666.9 619.8 289.7 38.3 13.5 13.0 656.8 618.2 289.7 38.3 13.5 13.0 645.2 617.3 290.4 37.7 13.4 13.8 645.2 617.3 290.4 37.7 13.4 14.8 16.8 622.7 613.4 290.0 45.4 14.5 16.0 601.0 613.5 229.1 68.7 14.5 16.0 591.3 613.5 229.1 68.7 14.5 16.0 591.3 613.5 229.1 68.7 14.5 16.0 591.3 613.5 229.1 68.7 14.5 16.0 591.3 613.5 229.1 68.7 14.5 16.0 591.3 613.5 229.1 68.7 14.5 16.0 591.3 613.5	-15.	3	-56.2	4000	730.5		788.4	30.6	1.000167
-24.9 20.5 706.6 626.2 206.3 32.3 1 23.7 24.7 698.0 624.6 229.4 34.3 1 35.5 21.2 677.2 621.4 289.7 36.0 1 37.5 -37.4 19.6 656.8 619.8 289.7 38.3 1 37.5 -40.1 17.6 645.2 617.3 290.4 37.7 1 -41.0 17.2 633.9 616.3 290.4 37.7 1 -41.8 16.8 622.7 615.4 299.7 56.7 1 -41.5 16.0 601.0 613.5 229.1 68.7 1 -42.7 16.4 611.8 614.5 229.1 68.7 1 -43.5 16.0 601.0 613.5 229.1 68.7 1 -45.5 16.0 591.7 610.5	-17	و م	-28.0	28.3	719.3		268•1	31.1	•
-31.7 24.7 698.0 624.6 289.4 34.3 1 35.6 23.6 623.0 289.4 34.3 36.0 -35.5 22.8 687.6 623.0 289.7 36.0 37.5 -37.4 19.6 656.8 618.2 289.7 38.3 1 37.6 645.2 617.3 290.4 37.7 1 -41.0 17.2 633.9 616.3 290.4 37.7 1 -41.8 16.8 622.7 615.4 299.7 56.7 1 -42.7 16.4 611.8 614.5 289.7 56.7 1 -44.5 16.0 591.3 613.5 229.1 68.7 1 -45.5 16.0 591.3 613.5	÷ .	.	-24.9	20.5	9.80/		20802	32.3	1.000161
-35.5 21.2 677.2 621.4 289.0 37.5 13.5 13.5 13.5 13.5 13.5 13.5 13.5 13	16.	~	731.7	24.7	698.0		289.4	34.3	1.000158
-37.4 19.6 666.8 619.8 289.7 38.3 18.0 656.8 619.2 289.7 38.5 18.5 -40.1 17.6 645.2 617.3 290.4 37.7 18.6 11.8 614.5 290.0 45.4 18.7 16.4 611.8 614.5 289.7 56.7 18.4 18.5 16.0 601.0 613.5 229.1 68.7 18.4 18.5 16.0 591.3 612.1	7 1) a		21.0	6777		289.th	37.5	1.00013
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-44:0 10:0 074:3 04:0 0.013 -45:5 16:0 581.7 616:4	125	y r	140.0	10.01	501.4	613.5	•	Ď	00013
	12.7) if	1 4 4	16.0	•	615.4			

STATION ALTITUDE 4051.37 FEET MSL 24 APR. 82 1045 HRS MST ASCENSION NO. 37	TITUDE 40	51.37 FEI 1045 HRS	ET MSL MST		UPPER AIR DATA 1140180037 LC-37	DATA 337		\$2,	GEODETIC COOKDINATES 32.40175 LAT DEG
					TABLE	TABLE 19 Cont'd			
GEOMETRIC	PRESSURE	TEM	PERATURE	REL.HUM.	DENSITY	SPEEU OF	AINU DATA	11A	INUEX
MSL FEET	MILLIBARS	DEGREES	MELITIONE AIN DESTRES CENTIGRADE METER KNOTS	JENCEN	METER	KNO18	DEGREES(TN) KNOTS	KNOTS	OF REFRACTION
24000.0	ð	01.7 -28.7	-46.5 16.0	16.0	572.	572.3 609.2			1.000128

GEODETIC COORDINATES 32,4J175 LAT DEG 106,31232 LON DEG	MIND DATA DIMECTION SPEED DEGREES(TN) KNOTS		308·3 10·7						
vëLS 7	KEL.HUM. PERCENT	30.	54. 51.	-89	96	32.	22.	17.	16.
MANDATORY LEVELS 1140180037 LC-37 TABLE 20	TEMPERATURE AIR DEWPOINT I DEGREES CENTIGRADE	9.6-	-5.1	-6.8	-16.1	-25.6	-34.5	-41.5	-46.7
ž	w	13.6	# T	-1.7	ا ا ا	-12.5	-18.1	-23.3	-58.9
MSL ST	OPOTENTIAL FEET	4937.	6599. 8339.	10163.	12090.	16343.	18708.	21260.	24060.
N ALIITUDE 4051.37 FEET MSL . 82 .Ion no. 37	PRESSURE GEOPOTENTIAL MILLIBARS FEET D	850.0	750.0	100.0	650.0	550.0	200.0	450.0	0.004
N ALTITUDE . 82 .ION NO.									

